

FACSIMILE COVER SHEET

Date: May 6, 2009

To: Examiner Alicia Baturay
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Ref. No.: Application Serial No. 10/772,223

Re: Agenda

No. of Pages
(inc. this page): 6

No Confirmation Copy To Follow

Dear Examiner Baturay:

Enclosed please find the agenda for the interview. Please contact me when you and your supervisor are available for interview.

Regards,
Amir Penn

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In re Appln. of: Kenji Ishii
Appln. No.: 10/772,223
Filed: February 3, 2004
For: APPARATUS AND A METHOD FOR
OPTIMIZING NETWORK RESOURCES
EMPLOYED IN DATA COMMUNICATION
Attorney Docket No: 9683/165

Examiner: Baturay, Alicia
Art Unit: 2155
Confirmation No. 2202

AGENDA

1. Claim 1

Proposed Amended Claim 1

1. (Currently Amended) A communication network system comprising:

a resource managing unit for managing statuses of node resources in a network and statuses of link resources in said network,

a node function location controlling unit, in response to an instruction of relocation, analyzing current available node resource based on the statuses of the node resources managed by the resource managing unit, determining at least one new node ~~locations~~ location of at least one node functions function, and relocating the at least one node functions function at the at least one new node ~~locations~~ location into an optimum condition,

a path structure controlling unit for restructuring a structure of paths in said network ~~into an optimum condition~~, in accordance with said statuses of link resources which are managed by said resource managing unit, in response to an instruction of restructuring, and

an adaptive control determining unit configured to determine for determining whether or not it is necessary to transmit either or both of said instruction of relocation to said node function location controlling unit and, configured to determine whether to transmit said instruction of restructuring to said path structure controlling unit, and configured to determine whether to transmit both said instruction of relocation to said node function location controlling unit and said instruction of restructuring to said path structure

controlling unit on the basis of said statuses of node resources and said statuses of link resources which are managed by said resource managing unit, and transmitting said instruction of relocation when the transmission of said instruction of relocation is determined to be necessary or transmitting said instruction of restructuring when the transmission of said instruction of restructuring is determined to be necessary.

2. Argument regarding Proposed Claim 1

Proposed Claim 1 recites several limitations that are patentably distinct from the Nguyen reference.

A. "Node Function Controlling Unit"

Proposed Claim 1 recites the following:

a node function location controlling unit, in response to an instruction of relocation, analyzing current available node resource based on the statuses of the node resources managed by the resource managing unit, determining at least one new node location of at least one node function, and relocating the at least one node function at the at least one new node location

In rejecting claim 1, the Office Action states that the Nguyen reference teaches the node function location controlling unit. The Office Action reasons as follows:

Assume there are 3 demands 1, 2, 3 between Node A and Node E. Also assume that these demands are being routed as follows: Before Reroute: Demand 1 uses path A-C-E. Demand 2 uses path A-C-D-E. Demand 3 uses path A-B-D-E. Suppose there is [a] congestion on arc AC. Now let us assume that the routing solution is determine[d] to be as follows: Demand 1 uses path A-C-E. Demand 2 uses path A-B-D-E. Demand 3 uses path A-B-C-D-E. The difference between the solution reroute and the original routing shows two changes, that in associated with Demand 2 and Demand 3. The next step is to determine which of the two changes need to happen first. Therefore it is more efficient and produces less network impact on the network if Demand 3 is rerouted first to path A-B-C-D-E. Following Demand 2 can be rerouted to path A-B-D-E. Configuration process makes the change to the elements in Network, to affect the routing of various demands in Network. see Nguyen, page 21, line 9. page 26, line 19).

The examiner points out that Nguyen teaches reassignment of node functions (Node 6 might not have the resources to serve all three demands at the same time, thereby creating Congestion. Upon recognizing this Congestion the servers may create Reroute to reroute some or all Traffic to avoid Node 6 to Node 12. see Nguyen, page 15, lines 6-10) in response to an instruction of relocation (*If one or more errors or congestion events are detected, Data Collection records*

such detections in Data Store. Following such a detection, a messaging step is performed which sends an activation message to Analysis Engine) and in which the current available node resource is analyzed based on statuses of node resources (Servers can then evaluate, following Demand 1 utilizing Reroute, which is the "best route," the prior route or Reroute. If Reroute is still the best route then Demand 3 is rerouted to Reroute. However, if the prior route is the "best route" again, following Demand 1 utilizing Reroute, then Demand 3 utilizes the prior route. scc Nguyen, page 16, line 22 -page 17, line 5).

Thus, according to the hypothetical posed by the Examiner, a particular node (such as node 6) does not have the resources to handle all the demands asked of it. Upon recognizing this, the Office Action states that the Nguyen reference teaches the following solution – "reroute some or all Traffic to avoid Node 6 to Node 12". Thus, according to the Office Action, in order to solve the congestion problem, the Nguyen reference teaches rerouting traffic.

Claim 1 takes a different approach to solving the congestion problem. Unlike the Nguyen reference (which solves the problem simply by rerouting), claim 1 recites "determining at least one new node location of at least one node function, and relocating the at least one node function at the at least one new node location". Specifically, a node's functions are changed – namely by "relocating" of the node functions to the new node. In this way, the functions that a node has are changed. This is an entirely different way to solve the congestion problem. Taking the example proffered by the Examiner, instead of avoiding node 6 (by "avoiding" node 6 as the Office Action correctly interprets the Nguyen reference), claim 1 recites relocating functions at a node – such as providing additional functionality at node 6 so that node 6 can handle the traffic. In other words, the approach that claim 1 recites – in terms of supplementing the functionality of a node – is entirely different from the approach taught in Nguyen. For at least this reason, proposed claim 1 is patentable over the art of record.

B. "Adaptive Control Determining Unit"

Proposed Claim 1 further recites:

an adaptive control determining unit configured to determine whether to transmit said instruction of relocation to said node function location controlling unit, configured to determine whether to transmit said instruction of restructuring to said path structure controlling unit, and configured to determine whether to transmit both said instruction of relocation to said node function location controlling unit and said instruction of restructuring to said path structure controlling unit

In rejecting claim 1, the Office Action states that the Nguyen reference teaches the node function location controlling unit, reasoning as follows:

The examiner reads the limitation as the determining unit determines whether to transmit *either of* said instruction of relocation to said node function location controlling unit *or* said instruction of restructuring to said path structure controlling unit. Because of the "or" in this limitation, the examiner is only required to find one of the limitations presented on either side of the "or" in order to meet the requirements for the rejection of this limitation.

Thus, the examiner respectfully submits that Nguyen teaches an adaptive control determining unit for determining whether or not it is necessary to transmit *either* or both *of* said instruction of relocation to said node function location controlling unit and said instruction of restructuring to said path structure controlling unit (Analysis Engine retrieves data necessary for analysis from Data Store).

Applicants respectfully disagree for two reasons. Contrary to what the Examiner believes, claim 1 as previously presented did not simply require "either of" said instruction of relocation to said node function location controlling unit *or* said instruction of restructuring to said path structure controlling unit. Rather, claim 1 recites "either or both". The Examiner has completely ignored "or both" in the claim. Therefore, the Examiner's contention that "the examiner is only required to find one of the limitations presented on either side of the 'or' in order to meet the requirements for the rejection of this limitation" is both factually and legally incorrect. Regardless, Applicants amend the limitation. The proposed amendment is commensurate with the scope as previously presented.

2. Claim 7:

Claim 7 recites:

a lock control requesting unit which transmits, when said instruction of relocation or said instruction of restructuring is transmitted and a certain resource is controlled by said network structure controlling device, a request for a lock control for avoiding said certain resource being controlled by another network structure controlling device, to a resource managing device for managing resources in said network

Claim 7 was rejected as anticipated by the Nguyen reference. In its reasoning, the Office Action states that "Claims 4-8 do not teach or define any new limitations above claims 1 and 9-12 and therefore are rejected for similar reasons." However, as acknowledged in the

Office Action with respect to claim 9, the Nguyen reference fails to teach or suggest locking control. For this reason alone, Applicants request the rejection of claim 7 be withdrawn.

3. Claim 14:

Claim 14 recites the following:

wherein the network structure controlling device comprises a plurality of network structure controlling devices,

wherein a certain network structure controlling device controls the certain resource, and

wherein the lock controlling unit locks control from a remainder of the plurality of network structure controlling devices so that only the certain network structure controlling device controls the certain resource.

The Office Action rejects claim 14 based on a combination of the Nguyen and Weinert references. In the rejection, the Office Action relies on the following excerpt from Weinert:

The table can be provided to resource managers so that the resource managers direct requests to the proper resource server via the resource components. The table includes locks to that repartitioning operations can be performed while avoiding synchronization problems.

Col. 12, line 65 – col. 13, line 3. The “table” referred to in the excerpt is the virtual partition table, “which relates virtual partition calculation values with resource servers.”

Col. 12, lines 64-65. As evident from the Weinert reference, the virtual partition table fails to teach a lock controlling unit that allows control (not simply access) of the resource, while locking “a remainder of the plurality of network structure controlling devices”.